

## AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below. In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. This listing of claims will replace all prior versions and listings of claims in the application. Changes to the claims are shown by strikethrough (for deleted matter) and underlining (for added matter).

By way of overview claims 1-36, 42-45 and 52-63 are currently pending claims (note that claims 37-41 and 46-51 having been previously cancelled without prejudice or disclaimer). The status of the pending claims is indicated below:

- a) Claims 1-32, 36, 42, 45, 52 and 53 are currently amended.
- b) Claim 33 was previously amended;
- c) Claims 34, 35, 43 and 44 were previously added; and
- d) Claims 54-63 are newly presented herein.

### Listing of Claims

1. (Currently Amended) A video input system for pre-processing video signals, the system comprising:

a video input module for receiving, processing and forwarding one or more live video signals, the video input module producing a forwarded video signal for each received live video signal;

a first multiplexer, coupled to a memory and to the video input module, for receiving a first stored video signal from the memory, or for receiving one of the forwarded video signals produced in the video input module, and for providing an output signal VS<sub>1</sub> defined as the first stored video signal or defined as the one of the forwarded video signals;

1 a first video pipeline for pre-processing  $VS_1$ , the first video pipeline producing a  
2 first pre-processed video signal;

3 a second multiplexer, coupled to the memory and to the video input module, for  
4 receiving a second stored video signal from the memory, or for receiving one of the  
5 forwarded video signals produced in the video input module, and for providing an output  
6 signal  $VS_2$  defined as the second stored video signal or defined as the one of the  
7 forwarded video signals; and

8 a second video pipeline for pre-processing  $VS_2$ , the second video pipeline  
9 producing a second pre-processed video signal.

10  
11 2. (Currently Amended) The video input system according to claim ~~[[1]]~~ 52  
12 wherein the video input module further comprises:

13 an ancillary data extractor, the extractor removing ancillary data from at least one  
14 of the live video signals converted in the video input module.

15  
16 3. (Currently Amended) The video input system according to claim ~~[[1]]~~ 52  
17 wherein the received live video signal is  $VS$ , wherein  $VS$  is an analog composite video  
18 signal, an analog component video signal, a serial digital composite video signal, a serial  
19 digital component video signal, a parallel digital composite video signal, or a parallel  
20 digital component video signal.

21  
22 4. (Currently Amended) The video input system according to claim ~~[[1]]~~ 52  
23 wherein the forwarded video signal includes  $D$ , wherein  $D$  is color data, alpha data, or  
24 color and alpha data.

1           5. (Currently Amended) The video input system according to claim [[+]] 52  
2 wherein at least one of the pre-processed video signals is e-VS, wherein e-VS is an RGB  
3 encoded video signal, an RGBA encoded video signal, a YUV-Type encoded video  
4 signal, or a YUVA-Type encoded video signal.

5  
6           6. (Currently Amended) The video input system according to claim [[+]] 52  
7 wherein the first pre-processed video signal is output to a storage medium and the second  
8 pre-processed video signal is forwarded to a video graphics processor.

9  
10          7. (Currently Amended) The video input system according to claim [[+]] 52  
11 wherein the first pre-processed video signal is output to a storage medium and the second  
12 pre-processed video signal is forwarded to a video output system.

13  
14          8. (Currently Amended) The video input system according to claim [[+]] 52  
15 wherein the first pre-processed video signal is forwarded to a video graphics processor  
16 and the second pre-processed video signal is forwarded to a video output system.

17  
18          9. (Currently Amended) The video input system according to claim [[+]] 52  
19 wherein the process of pre-processing includes changing the sample rate of the video  
20 signal being pre-processed.

21  
22          10. (Currently Amended) The video input system according to claim [[+]] 52  
23 wherein the process of pre-processing includes gamma removal.

1 11. (Currently Amended) The video input system according to claim [[+]] 52  
2 wherein the process of pre-processing includes gamma insertion.

4 12. (Currently Amended) The video input system according to claim [[+]] 52  
5 wherein the process of pre-processing includes color space conversion.

7 13. (Currently Amended) The video input system according to claim [[+]] 52  
8 wherein the process of pre-processing includes dithering.

10 14. (Currently Amended) The video input system according to claim [[+]] 52  
11 wherein the process of pre-processing includes scaling.

13 15. (Currently Amended) The video input system according to claim [[+]] 52  
14 wherein the process of pre-processing includes addressing on a frame-by-frame basis the  
15 video signal being pre-processed.

17 16. (Currently Amended) The video input system according to claim [[+]] 52  
18 wherein the system is a Peripheral Component Interconnect circuit board.

20 17. (Currently Amended) A method for pre-processing video signals, the method  
21 comprising:

22 receiving and processing one or more live video signals in a video input module  
23 and forwarding the one or more live video signals, producing a forwarded video signal  
24 for each received live video signal;

1 receiving, in a first multiplexer coupled to a memory and to the video input  
2 module, a first stored video signal from the memory, or one of the forwarded video  
3 signals produced in the video input module, and providing an output signal  $VS_1$  defined  
4 as the first stored video signal or defined as the one of the forwarded video signals;

5 pre-processing  $VS_1$  through a first video pipeline to produce a first pre-processed  
6 video signal;

7 receiving, in a second multiplexer coupled to the memory and to the video input  
8 module, a second stored video signal from the memory, or one of the forwarded video  
9 signals produced in the video input module, and providing an output signal  $VS_2$  defined  
10 as the second stored video signal or defined as the one of the forwarded video signals;  
11 and

12 pre-processing  $VS_2$  through a second video pipeline to produce a second  
13 pre-processed video signal.

14  
15 18. (Currently Amended) The method according to claim ~~[[17]]~~ 53, further  
16 comprising:

17 removing ancillary data from at least one of the live video signals prior to  
18 converting the at least one live video signal.

19  
20 19. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
21 received live video signal is  $VS$ , wherein  $VS$  is an analog composite video signal, an  
22 analog component video signal, a serial digital composite video signal, a serial digital  
23 component video signal, a parallel digital composite video signal, or a parallel digital  
24 component video signal.

1           20. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
2 forwarded video signal includes D, wherein D is color data, alpha data, or color and alpha  
3 data.  
4

5           21. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein at  
6 least one of the pre-processed video signals is e-VS, wherein e-VS is an RGB encoded  
7 video signal, an RGBA encoded video signal, a YUV-Type encoded video signal, or a  
8 YUVA-Type encoded video signal.  
9

10          22. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
11 first pre-processed video signal is output to a storage medium and the second  
12 pre-processed video signal is forwarded to a video graphics processor.  
13

14          23. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
15 first pre-processed video signal is output to a storage medium and the second  
16 pre-processed video signal is forwarded to a video output system.  
17

18          24. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
19 first pre-processed video signal is forwarded to a video graphics processor and the second  
20 pre-processed video signal is forwarded to a video output system.  
21

22          25. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
23 process of pre-processing includes changing the sample rate of the video signal being  
24 pre-processed.  
25

1           26. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
2 process of pre-processing includes gamma removal.

3  
4           27. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
5 process of pre-processing includes gamma insertion.

6  
7           28. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
8 process of pre-processing includes color space conversion.

9  
10          29. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
11 process of pre-processing includes dithering.

12  
13          30. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
14 process of pre-processing includes scaling.

15  
16          31. (Currently Amended) The method according to claim ~~[[17]]~~ 53 wherein the  
17 process of pre-processing includes addressing on a frame-by-frame basis the video signal  
18 being pre-processed.

19  
20          32. (Currently Amended) A video input system for pre-processing video signals,  
21 the system comprising:

22           input means for receiving and processing one or more live video signals and for  
23 forwarding the one or more live video signals, producing a forwarded video signal for  
24 each received live video signal;

1 first multiplexing means, coupled to a memory and to the input means, for  
2 receiving a first stored video signal from the memory or for receiving one of the  
3 forwarded video signals produced in the input means, and for providing an output signal  
4 VS<sub>1</sub> defined as the first stored video signal or defined as the one of the forwarded video  
5 signals;

6 means for pre-processing VS<sub>1</sub> through a first video pipeline to produce a first  
7 pre-processed video signal;

8 second multiplexing means, coupled to the memory and to the input means, for  
9 receiving a second stored video signal from the memory or for receiving one of the  
10 forwarded video signals produced in the input means, and for providing an output signal  
11 VS<sub>2</sub> defined as the second stored video signal or defined as the one of the forwarded  
12 video signals; and

13 means for pre-processing VS<sub>2</sub> through a second video pipeline to produce a  
14 second pre-processed video signal.

15  
16 33. (Previously Amended) The system according to claim 32, further comprising:  
17 means for removing ancillary data from at least one of the live video signals prior  
18 to converting the at least one live video signal.

19  
20 34. (Previously Added) The video input system according to claim 1 wherein the  
21 forwarded video signal received by the first multiplexer is the same as the forwarded  
22 video signal received by the second multiplexer.



1           35. (Previously Added) The video input system according to claim 1 wherein the  
2 forwarded video signal received by the first multiplexer is different than the forwarded  
3 video signal received by the second multiplexer.

4  
5           36. (Currently Amended) The video input system according to claim 1, further  
6 comprising:

7           a third multiplexer for receiving the first pre-processed video signal and for  
8 routing an output signal based thereon to one of: a video output system, a video graphics  
9 processor, ~~and~~ or a storage medium; and

10           a fourth multiplexer for receiving the second pre-processed video signal and for  
11 routing another output signal based thereon to one of: the video output system, the video  
12 graphics processor, ~~and~~ or the storage medium.

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14           37. (Cancelled)

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16           38. (Cancelled)

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18           39. (Cancelled)

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20           40. (Cancelled)

21  
22           41. (Cancelled)

23  
24           42. (Currently Amended) A video input system for pre-processing video signals,  
25 the system comprising:

1 a video input module for receiving, processing and forwarding a video signal;  
2 a first video pipeline for pre-processing the forwarded video signal to produce a  
3 first pre-processed video signal, wherein the pre-processing in the first video pipeline  
4 includes at least one of: up sampling, down sampling, gamma insertion, gamma removal,  
5 color space conversion, scaling, ~~and~~ or dithering; and  
6 a second video pipeline for pre-processing the same forwarded video signal to  
7 produce a second pre-processed video signal, wherein the pre-processing in the second  
8 video pipeline includes at least one of: up sampling, down sampling, gamma insertion,  
9 gamma removal, color space conversion, scaling, ~~and~~ or dithering,  
10 wherein the video input system is configured to forward the first pre-processed  
11 video signal to a storage medium, and  
12 wherein the video input system is configured to forward the second pre-processed  
13 video signal to a display or to a video output system.

14  
15 43. (Previously Added) The method according to claim 17 wherein the forwarded  
16 video signal received by the first multiplexer is the same as the forwarded video signal  
17 received by the second multiplexer.

18  
19 44. (Previously Added) The method according to claim 17 wherein the forwarded  
20 video signal received by the first multiplexer is different than the forwarded video signal  
21 received by the second multiplexer.

22  
23 45. (Currently Amended) The method according to claim 17, further comprising:  
24  
25

1 receiving, in a third multiplexer, the first pre-processed video signal, and routing  
2 an output signal based thereon to one of: a video output system, a video graphics  
3 processor, ~~and~~ or a storage medium; and

4 receiving, in a fourth multiplexer, the second pre-processed video signal, and  
5 routing another output signal based thereon to one of: the video output system, the video  
6 graphics processor, ~~and~~ or the storage medium.

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8 46. (Cancelled)

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10 47. (Cancelled)

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12 48. (Cancelled)

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14 49. (Cancelled)

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16 50. (Cancelled)

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18 51. (Cancelled)

19  
20 52. (Currently Added) A video input system for pre-processing video signals, the  
21 system comprising:

22 a video input module for receiving, processing and forwarding one or more live  
23 video signals, the video input module producing a forwarded video signal for each  
24 received live video signal;

1 a first video pipeline for pre-processing  $VS_1$ , wherein the video input system is  
2 configured to receive  $VS_1$  as a first stored video signal in one input configuration, and the  
3 video input system is configured to receive  $VS_1$  as one of the forwarded video signals  
4 produced in the video input module in another input configuration, the first video pipeline  
5 producing a first pre-processed video signal; and

6 a second video pipeline for pre-processing  $VS_2$ , wherein the video input system is  
7 configured to receive  $VS_2$  as one of the same video signal being pre-processed in the first  
8 video pipeline in one input configuration, and the video input system is configured to  
9 receive  $VS_2$  as one of the other forwarded video signals produced in the video input  
10 module in another input configuration, and the video input system is configured to  
11 receive  $VS_2$  as a second stored video signal in another input configuration, the second  
12 video pipeline producing a second pre-processed video signal,

13 wherein the pre-processing in the first video pipeline makes changes to  
14 ~~[[displayable]]~~ video content in the signal  $VS_1$ ,

15 and wherein the pre-processing in the second video pipeline makes changes to  
16 ~~[[displayable]]~~ video content of the signal  $VS_2$ .

17  
18 53. (Currently Amended) A method for pre-processing video signals, the method  
19 comprising:

20 receiving and processing one or more live video signals in a video input module  
21 and forwarding the one or more live video signals, producing a forwarded video signal  
22 for each received live video signal;

23 selecting an input configuration used to define a signal  $VS_1$ , wherein in one input  
24 configuration,  $VS_1$  is a first stored video signal, and in another input configuration,  $VS_1$  is  
25 one of the forwarded video signals produced in the video input module;

1 pre-processing  $VS_1$  through a first video pipeline, producing a first pre-processed  
2 video signal;

3 selecting an input configuration used to define  $VS_2$ , wherein in one input  
4 configuration,  $VS_2$  is the same video signal being pre-processed in the first video  
5 pipeline, and in another input configuration,  $VS_2$  is one of the other forwarded video  
6 signals produced in the video input module, and in another input configuration  $VS_2$  is a  
7 second stored video signal; and

8 pre-processing  $VS_2$  through a second video pipeline, producing a second  
9 pre-processed video signal,

10 wherein the pre-processing in the first video pipeline makes changes to  
11 ~~[[displayable]]~~ video content in the signal  $VS_1$ ,

12 and wherein the pre-processing in the second video pipeline makes changes to  
13 ~~[[displayable]]~~ video content of the signal  $VS_2$ .

14  
15 54. (New) The video input system according to claim 52 wherein the processing  
16 performed by the video input module comprises converting said one or more live video  
17 signals into a defined format to provide the forwarded video signal for each received live  
18 video signal.

19  
20 55. (New) The video input system according to claim 52 wherein the video input  
21 module comprises a receiver, a processor and a buffer.

22  
23 56. (New) The video input system according to claim 52 wherein the first video  
24 pipeline and the second video pipeline respectively generate video signals for output to  
25 two different output devices.

1  
2 57. (New) The video input system according to claim 52 wherein the first video  
3 pipeline and the second video pipeline process two video signals having separate content  
4 in interleaved fashion.

5  
6 58. (New) The video input system according to claim 52 wherein the video input  
7 system is coupled to a video output system, wherein the video output system defines a  
8 video signal output format of a combination of the video input system and the video  
9 output system.

10  
11 59. (New) The method according to claim 53 wherein the processing performed  
12 by the video input module comprises converting said one or more live video signals into  
13 a defined format to provide the forwarded video signal for each received live video  
14 signal.

15  
16 60. (New) The method according to claim 53 wherein the video input module  
17 comprises a receiver, a processor and a buffer.

18  
19 61. (New) The method according to claim 53 wherein the first video pipeline and  
20 the second video pipeline respectively generate video signals for output to two different  
21 output devices.

22  
23 62. (New) The method according to claim 53 wherein the first video pipeline and  
24 the second video pipeline process two video signals having separate content in  
25 interleaved fashion.

1  
2 63. (New) The method according to claim 53 wherein the video input module,  
3 first video pipeline and second video pipeline are coupled to a video output system,  
4 wherein the video output system defines a video signal output format of a combination of  
5 the video input module, first video pipeline, second video pipeline and the video output  
6 system.  
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